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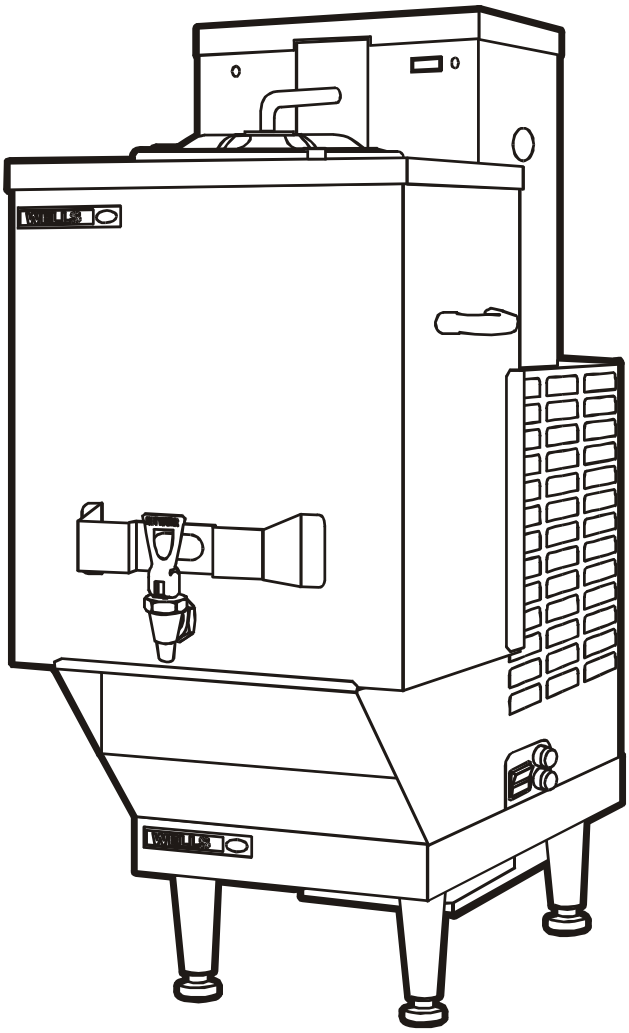


SERVICE MANUAL

WATER-MAX WM-TR

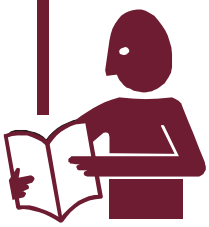
Includes

SERVICE INSTRUCTIONS

WIRING DIAGRAMS

EXPLODED VIEWS

PARTS LIST



IMPORTANT: DO NOT DISCARD THIS MANUAL

This manual is considered to be part of the appliance and is to be given to the OWNER or MANAGER of the restaurant, or to the person responsible for TRAINING OPERATORS of this appliance. Additional manuals are available from your WELLS DEALER.

THIS MANUAL MUST BE READ AND UNDERSTOOD BY ALL PERSONS USING OR INSTALLING THIS APPLIANCE. Contact your WELLS DEALER if you have any questions concerning installation, operation or maintenance of this equipment.

p/n ***503364*** *Rev. A*

S705 ***05****0705 cps*

PRECAUTIONS AND GENERAL INFORMATION

WARNING: Electric Shock hazard

All servicing requiring access to non-insulated electrical components must be performed by a factory authorized technician.
DO NOT open any access panel which requires the use of tools. Failure to follow this warning can result in severe electrical shock.

CAUTION: Risk of Damage

DO NOT connect or energize this appliance until all installation instructions are read and followed. Damage to the appliance will result if these instructions are not followed.

Water-Max™ hot water dispenser is intended for use in commercial establishments only.

This dispenser is designed to dispense hot water used in the preparation of food for human consumption. No other use is recommended or authorized by the manufacturer or its agents.

Operators of this appliance must be familiar with the appliance use, limitations and associated restrictions.

Operating instructions, warnings and labels must be read and understood by all persons using or installing this appliance.

Cleanliness of this dispenser is essential to good sanitation. Read and follow all included cleaning instructions and schedules to ensure the safety of the food product.

Disconnect this appliance from electrical power before performing any maintenance or servicing.

DO NOT submerge the dispenser or water tank in water. Do not splash or pour water on, in or over any controls, control panel or wiring.

The technical content of this manual, including any wiring diagrams, schematics, parts breakdown illustrations and/or adjustment procedures, is intended for use by qualified technical personnel.

Any procedure which requires the use of tools must be performed by a qualified technician.

This manual is considered to be a permanent part of the appliance. This manual and all supplied instructions, diagrams, schematics, parts breakdown illustrations, notices and labels must remain with the appliance if it is sold or moved to another location.

This appliance is made in the USA. Unless otherwise noted, this appliance has American sizes on all hardware.

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SPECIFICATIONS

Electrical: 208 Volts, Single Phase 35 Amps
240 Volts, Single Phase 35 Amps

NOTE: Requires a dedicated 50 Amp circuit

Plumbing: Water Inlet: 1/4" Male Flare Fitting
Supply: 1/4" Female Flare supplied by a 1/4" O.D. or larger water supply line

NOTE: If water supply run from main supply line to Water-Max™ exceeds 12 feet, a 3/8" O.D. or larger water supply line is required. Water supply line must be rated for at least 180ºF.
For higher capacity, hook-up to a hot water line.
DO NOT use a saddle valve to connect to supply line.

IMPORTANT: This dispenser must be installed in compliance with all applicable federal, state and local codes and ordinances.

Dimensions:

Height:	28-11/16"	
Width:	10-1/16" (without tank)	15" (with tank installed)
Depth:	22-7/16" (without tank)	25-1/4" (with tank installed)
Weight:	74 lbs. (without tank)	150 lbs. (with tank installed and filled)

TROUBLESHOOTING SUGGESTIONS

SYMPTOM	POSSIBLE CAUSE	SUGGESTED REMEDY
POWER INDICATOR not lit	Water-Max™ not connected to power	Check POWER PLUG Check circuit breaker
	POWER switch **OFF**	Press POWER switch to *ON*
	Insufficient water supply	Check water supply turned *ON* And supplying at least 25 p.s.i.
	Water tank not installed	Check tank for proper installation
TANK INDICATOR not lit	Tank not properly seated in receptacle	Check tank for proper installation
STATUS INDICATOR flashing	ERROR detected - water pressure insufficient	Check water supply turned *ON* And supplying at least 25 p.s.i.
	ERROR detected - temperature rise between inlet and outlet insufficient	Be sure voltage is maintained during all phases of operation
	RESET Water-Max™: Turn POWER SWITCH *OFF*. Wait 20 seconds. Turn POWER SWITCH *ON.* If unit resets and status indicator comes on without flashing, error was (probably) a low water condition. Otherwise, contact your Authorized Wells Service Agency.	
No water flow from dispense nozzle (power indicator lit, status indicator not flashing)	Tank is full	Normal operation
	Tank is sensed as full, but is actually low	Clean water level probe Replace probe if damaged
	Tank not properly installed	Check tank for proper installation
INDUCTIVE HEATER operates intermittently	Internal hi-limit tripping	Be sure all cooling openings and louvers are unobstructed.
	Cooling fan dirty or obstructed)	Clean cooling fan. Refer to Servicing Instructions, page 14
WATER TANK does not keep water hot	Tank not properly installed (TANK INDICATOR not lit)	Check tank for proper installation
	Internal damage	Tank receptacle pins L1 to L2 should read approximately 144Ω

OPERATIONAL NOTES

Water-Max™ will not operate if water pressure is less than 25 p.s.i. If Water-Max™ shuts down (status light flashes) for no apparent reason, other equipment on the water line may be reducing overall water pressure and/or volume to Water-Max™.

ERROR CODES are displayed on the control board readout, visible through the view port on the upper right side of the dispenser. Refer to page 3 for error code meanings and suggested remedial action.

There are no user serviceable components in the appliance. In all cases of damage or component malfunction, contact your Authorized Wells Service Agency for repairs.

SAFETY FEATURES

Water-Max™ will not flow water from the dispense nozzle unless the water tank is in place.

Water-Max™ will not dispense into a full water tank.

The water tank heater will not heat unless the connector on Water-Max™ is fully mated with the tank receptacle. The heater on the water tank is protected by an over-temp safety switch which will disable the heater if the tank is allowed to run dry.

Water-Max™ cannot be energized (green power light will not be lit) unless sufficient inlet water pressure is sensed.

Water-Max™ will go into error mode unless sufficient temperature rise is sensed between inlet and output water while in the heating mode.

Water-Max™ will go into error mode and stop dispensing after approximately 96 minutes of continuous operation (i.e. 96 minutes without sensing a "tank full" condition).

ERROR CODES

1 Open or disconnected INPUT TEMPERATURE thermocouple.
- → Check connections at control board.
- → Check continuity of input temperature probe*.

2 Open or disconnected OUTPUT WATER TEMPERATURE thermocouple.
- → Check connections at control board.
- → Check continuity of output temperature probe*.

4 Insufficient WATER TEMPERATURE RISE.
Must exceed 14ºF rise in 20 seconds.
- → Verify input water pressure does not exceed 40 p.s.i.
- → Verify input voltage. Delime unit.
- → Check resistance for both thermocouples (2-5 Ω), plus thermocouple leads to heater (0-2 Ω). A shorted thermocouple, or one detached from the heater, will cause an error 4*.

5 Flow time exceeds 96 minutes of uninterrupted operation. Turn power off. Wait 20 seconds, turn power back on.

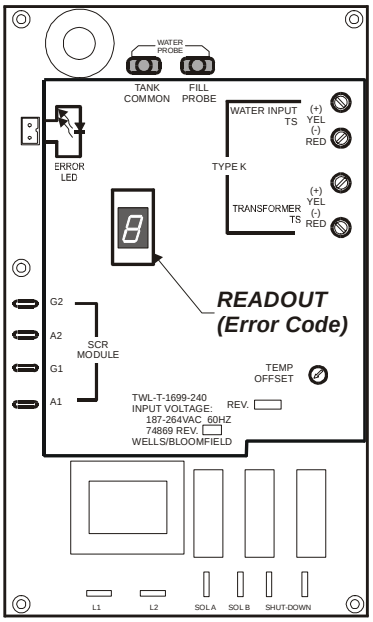
* A short or loss of continuity in either input or output thermocouple requires replacement of the inductive heater assembly. Field repair of the heater is not recommended.

CAUTION:
SHOCK HAZARD

Removal of the top, front or side panels results in exposed electrical circuits. Any procedure requiring the removal of a panel must be performed by ***a qualified technician only***.

NOTE: There is a 5 second delay between the time the power switch is turned on and the time Water-Max™ begins operation.

NOTE: Error codes are displayed on the control circuit board readout.



To reset an error code, correct the cause of the error, then press the power switch to *OFF*. After 20 seconds, turn the power switch back *ON*.

NOTE: *Initial startup* may require multiple resets of code 4 condition.

CALIBRATING TEMPERATURE

CAUTION:
SHOCK HAZARD

Removal of the top, front or side panels results in exposed electrical circuits. Setting the temperature must be performed by *a qualified technician only.*
Use care whenever working around exposed electrical circuits.

NOTE:
Refer to Table 1 below. The practical maximum temperature is the local boiling temperature (based on the altitude of the installation) minus 10ºF.
If the stream is "sputtering", water temperature is set too high, allowing steam to form in the water flow. Set TEMP OFFSET lower to compensate.

Remove TOP PANEL. Insert the thermocouple of a digital thermometer at least 4" into DISPENSER NOZZLE.

Install WATER TANK under DISPENSER NOZZLE. Press POWER SWITCH to *ON.*

Run and discard at least one full tank of hot water to allow dispenser temperatures to stabilize.

Temperature is factory set for 202ºF. Turn TEMP OFFSET on the CONTROL CIRCUIT BOARD so that temperature on digital thermometer reads 202ºF.

Press POWER SWITCH to *OFF.*

Upon completion of temperature adjustment, properly reinstall all panels.

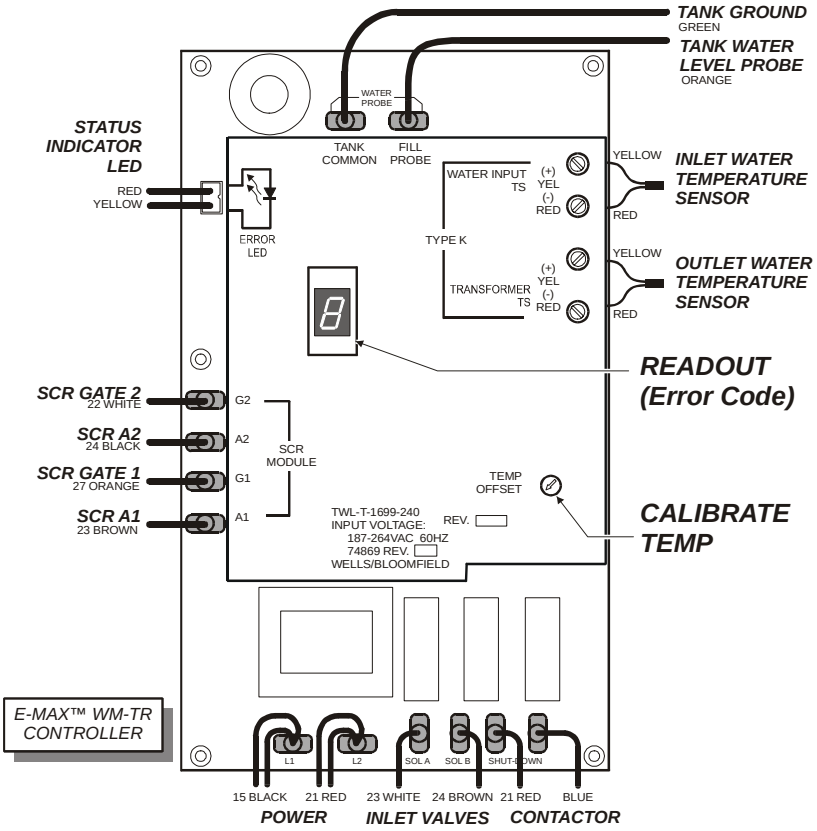


Fig. 7 Control Board

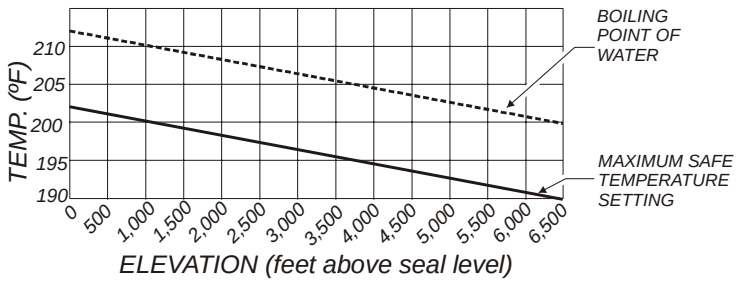


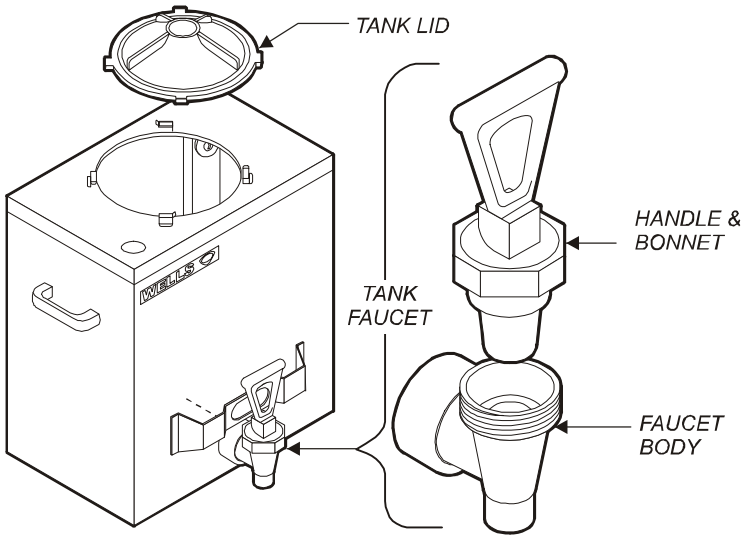
Table 1 Boiling Point of Water at Different Altitudes

DAILY CLEANING

PRECAUTIONS: Press POWER SWITCH to *OFF (0).*
Drain all water from TANK.
Remove tank from Water-Max™.

FREQUENCY: Minimum - Daily, or as required

TOOLS: Soft Cloth, Soft Bristle Brush



Wipe down the exterior of the Water-Max™ with a soft damp cloth.

Use a soft bristle brush to remove any calcium or lime build-up on the end of the dispensing nozzle. Wipe dispensing nozzle clean with a soft damp cloth.

Remove TANK LID.

Wipe TANK FAUCET, interior and exterior of tank with a soft damp cloth. ***DO NOT SUBMERGE TANK IN WATER!***

Fill tank with cool, clean water. Check operation of faucet.
If the faucet leaks:
- Drain tank
- Disassemble faucet by unscrewing bonnet from faucet body.
- Clean or repair faucet as necessary.
- Reassemble bonnet on faucet body.

Reinstall TANK LID.

Drain any remaining water from tank and re-install on Water-Max™.

Press POWER SWITCH to *ON (I)* and test for proper operation.

Procedure is complete.

CAUTION:
BURN HAZARD
Water in tank is extremely hot. Use care when draining tank.

CAUTION:
HOT SURFACES
Exposed surfaces can be hot to the touch and may cause burns.

CAUTION:
EQUIPMENT DAMAGE
DO NOT SUBMERGE TANK IN WATER!

IMPORTANT:
DO NOT use bleach, abrasive cleansers or cleansers containing chlorides.

CAUTION
Burn Hazard

Water in Water-Max™ is EXTREMELY HOT

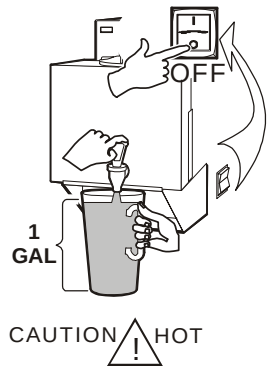
DELIMING INSTRUCTIONS

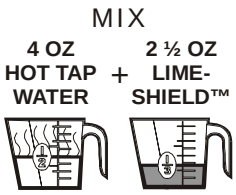
PRECAUTIONS: Water in tank is EXTREMELY HOT (over 200ºF)
Turn Water-Max™ OFF

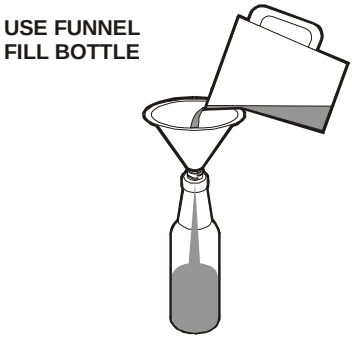
Drain water from tank before moving.

FREQUENCY: Weekly, or as required when Water-Max™ will not maintain water at preset temperature.

TOOLS: LIMESHIELD™ Scale and Food Soil Inhibitor
Funnel, Solution Bottle
Scrub Pad (Standard Green)
1 Gallon or Larger Plastic Container (Pitcher)







1. Power switch is located on right side of Water-Max™ base.

   Press POWER SWITCH to *OFF*.

   Drain 1 GALLON of water from TANK.

2. Examine SOLUTION BOTTLE for serviceability. If it is cracked or distorted, replace it with a new bottle.
   IMPORTANT: Delime with *LIMESHIELD™ Scale and Food Soil Inhibitor* ONLY!

   A graduated scoop is provided in the Limeshield™ container. Measure 1/2 cup (4 ounces) of hot tap water. Pour this into the 1 gallon container.

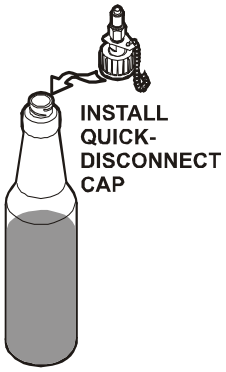
   Measure 1/3 cup (2.5 ounces) of Limeshield™ and pour slowly into the water in the 1 gallon container.

   When foaming stops, swirl solution to insure the Limeshield™ is completely dissolved.

   Use the provided funnel to pour the solution into the solution bottle.

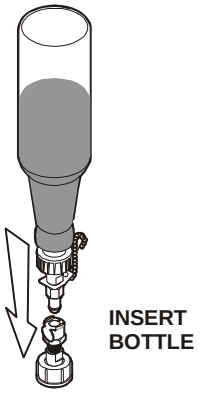
   Dispenser cap is chained to the top of Water-Max™.

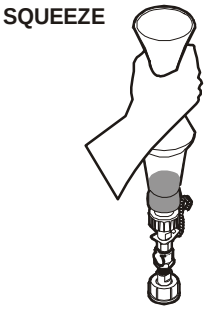
   Screw quick-disconnect dispenser cap onto solution bottle.



3. QUICK-DISCONNECT FITTING is located on the left top of Water-Max™. Press the latch until it “clicks” open.

   Invert solution bottle. Insert bottle quick-disconnect fitting into Water-Max™ quick-disconnect fitting. Press solution bottle down until the latch “clicks”, locking the solution bottle in place.





4. Squeeze solution bottle and force deliming solution into Water-Max™

5. Press latch on tank quick-disconnect fitting until it “clicks” to release the solution bottle. Lift solution bottle straight up.

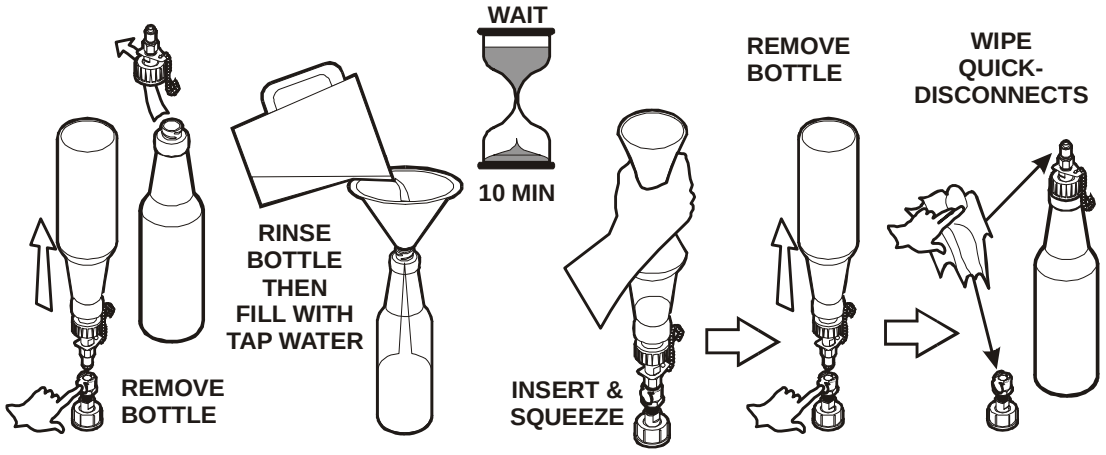
   Unscrew quick-disconnect cap allowing solution bottle to return to shape.

   Rinse solution bottle with warm tap water. Fill solution bottle 2/3 full of warm tap water and reattach quick-disconnect cap.

   After 10 minutes, insert solution bottle in quick-disconnect fitting. Push down on bottle until latch “clicks”. Squeeze bottle, rinsing quick-disconnect fittings and forcing deliming solution in Water-Max™ into the tank.

   Press latch on tank quick-disconnect fitting to release the solution bottle. While pressing button, lift solution bottle straight up. Press the valve on the solution bottle fitting to allow the bottle to return to shape. Press the small plunger on the Water-Max™ quick-disconnect to release the latch. Wipe both quick-disconnect fittings with a soft cloth.

   The quick disconnect fittings are now ready for the next deliming session.

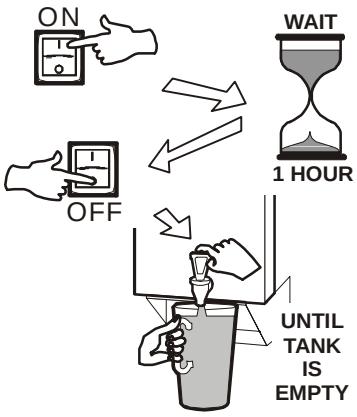


6. Press power switch to *ON*. Water-Max™ will dispense water and any remaining deliming solution into tank.

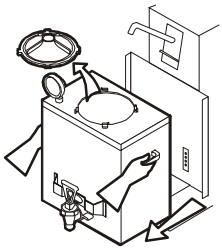
   When Water-Max™ stops dispensing, press power switch to *OFF*. Allow Water-Max™ to set for I HOUR with deliming solution in tank.

   After I hour, drain pitchers of water from tank until tank is empty.

   Pour all water and solution from tank into a sink or appropriate container for disposal.



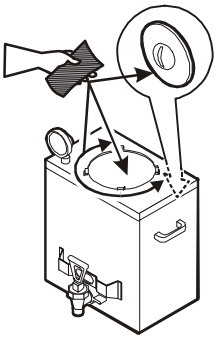
DELIMING INSTRUCTIONS (continued)



REMOVE TANK
REMOVE LID

7. Remove tank from Water-Max™

   Remove TANK COVER from tank. Rinse cover and dry. Store tank cover for later use.
   Note: *See Cleaning Instructions* page 15.



SCRUB TANK

INSIDE TANK, AROUND LIP & PROBE

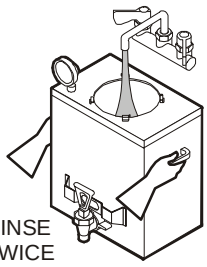
8. WATER LEVEL PROBE is located in the tank, in the back right corner near the top.

   Using a STANDARD GREEN SCRUB PAD, clean all scale and lime from the water level probe.

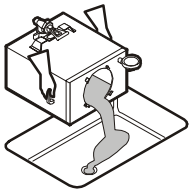
   Using the scrub pad, clean all scale and lime deposits from the lip of the tank opening and from the inside of the tank.

   If tank comes clean, proceed to step 9; otherwise,

   a) Fill tank half full with hot tap water.
   b) Pour 1-1/4 cup (10 oz) Limeshield™ into tank. Allow to dissolve completely.
   c) When foaming stops, fill tank to rim with hot tap water.
   d) Let the solution soak in the tank over night
   e) After the soak period, carefully drain tank. Loosen scale deposits with scrub pad. Remove large scale deposits through top of tank.



RINSE TWICE



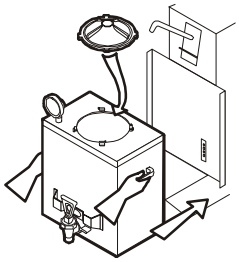
9.

   CAUTION:
   Shock Hazard

   DO NOT submerge tank in water.

   Rinse tank thoroughly at least twice.

   Pour all rinse water into a sink or appropriate container for disposal.



REINSTALL LID & TANK

10. Reinstall tank cover on tank.

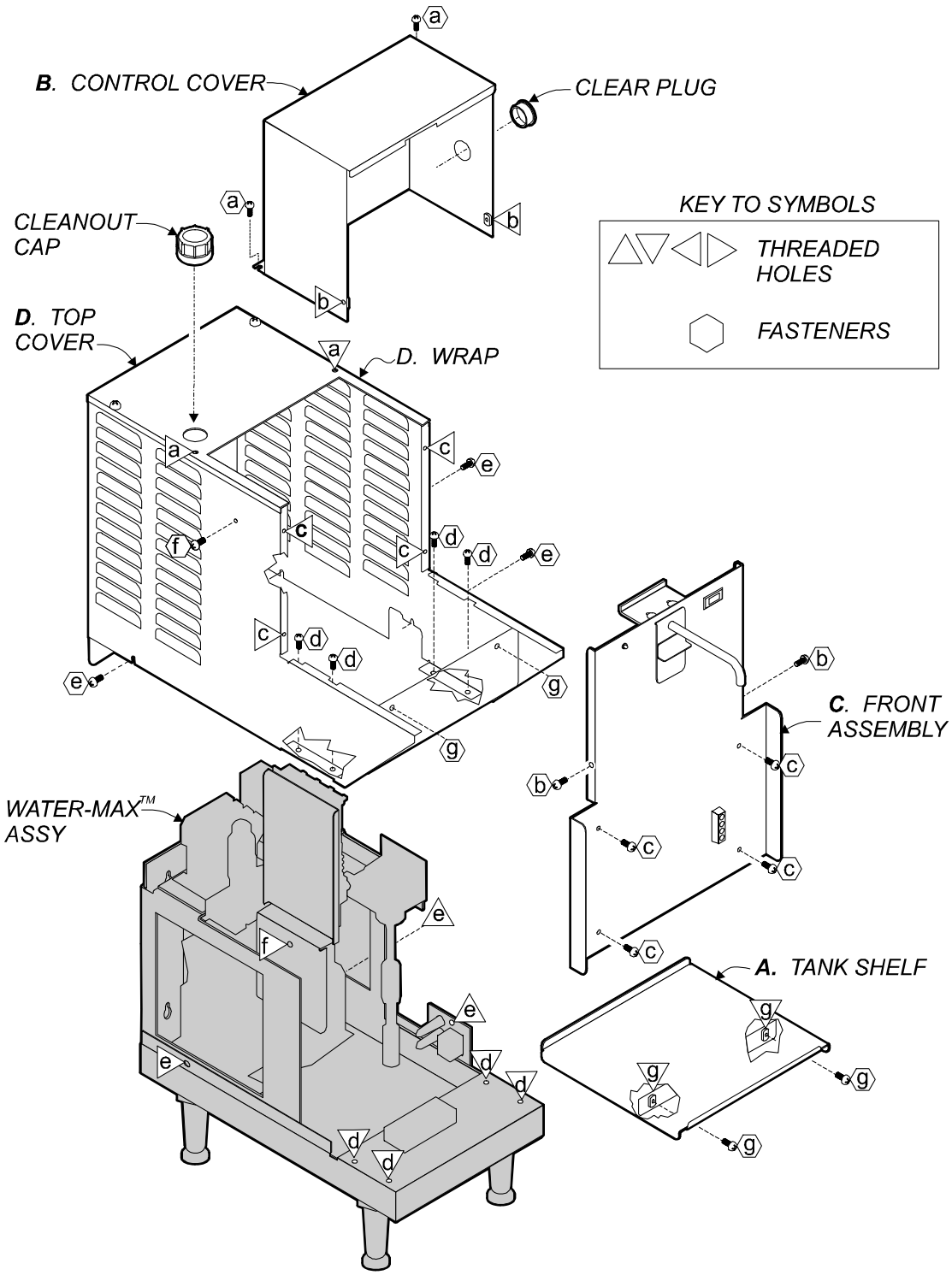
    Reinstall tank on Water-Max™. Make sure tank connector is fully seated on shelf.

    Press power switch to *ON*.

    After a short delay, tank will begin filling.

Procedure is complete

CABINET COMPONENTS



WARNING
Electric Shock Hazard

Disconnect Water-Max™ from electrical power before removing any panel or cover.

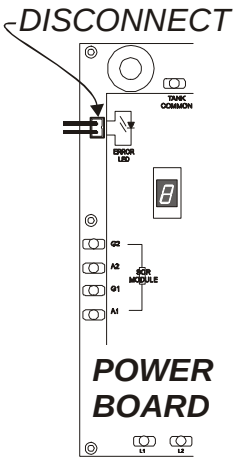
IMPORTANT

Shut off water supply before performing any service to Water-Max™

TOOLS REQUIRED:

#2 Phillips Screwdriver

Container to hold fasteners



CABINET COMPONENTS

A. TANK SHELF

1. Removal
   a. Remove two screws (g).
   b. Lift the front of the tank shelf until the rear lip clears the front assembly.
   c. Lift the tank shelf off.
2. Installation
   a. Hold tank shelf vertically. Slide rear lip under front assembly.
   b. Rotate tank shelf to the horizontal position. The left and right lips go on the outside of the wrap. The flange with the weldnuts (g) goes behind the front web of the wrap.
   c. Insert and tighten two screws (g).

B. CONTROL COVER

1. Removal
   a. Remove two screws (a) from top cover, and two screws (b) from front assembly.
   b. Lift control cover straight up to remove.
2. Installation
   a. Lower control cover into position. The left and right lips of the front assembly go on the outside of the control cover. The front lip of the control cover hooks over the outside of the front assembly.
   b. Install and tighten two screws (a) into the top cover, and two screws through the lips of the front assembly into the control cover.

C. FRONT ASSEMBLY

1. Removal
   a. Remove the control cover (See B. above).
   b. Remove four screws (c) from the front of the front assembly.
   c. Disconnect the electrical connector for the front assembly. Disconnect the error indicator wiring connector from the power board (see drawing at right). Disconnect the nozzle supply hose from the inductive heater by gently working the hose off of the barbed fitting.
   d. The front assembly may now be removed.
2. Installation
   a. Reconnect the nozzle supply hose by gently working the hose onto the inductive heater barbed fitting, making sure it is fully seated. Reconnect the electrical connector for the front assy. It is keyed and will only connect one direction. Reconnect the error indicator wiring connector to the power board. Observe the locating tab to ensure proper connection.
   b. Set the front assembly in position and reinstall four screws (c).
   c. Reinstall control cover and tank shelf as detailed above.

D. TOP COVER AND WRAP ASSEMBLY

TOOLS REQUIRED:

#2 Phillips Screwdriver
Container to hold fasteners

Note: For the purpose of servicing Water-Max™, the top cover and wrap may be removed as a unit.

1. Removal
   a. Remove the tank shelf, control cover and front assembly. (see A., B. and C., page 10).
   b. Remove four screws (d) from the area beneath the shelf.
   c. Remove screw (f) from power board support.
   d. Loosen three chassis screws (e).
   e. Remove deliming quick disconnect fitting.
   f. Work the wrap off of the frame. Be aware of wiring or connectors which may hang-up in the cooling louvers.
2. Installation
   a. Work the wrap over the frame. Gently work the hole in the top cover over the threaded end of the cleanout assembly. The recessed side flanges of the lower cover must be on the inside of the wrap.
   b. Reinstall four screws (d) in the area beneath the shelf.

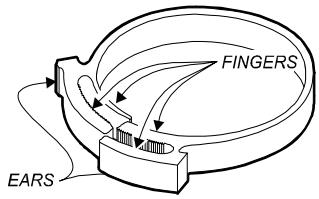
Note: Be careful to avoid scraping, trapping or pinching wires as the wrap is lowered over the frame.

E. HOSE CLAMPS

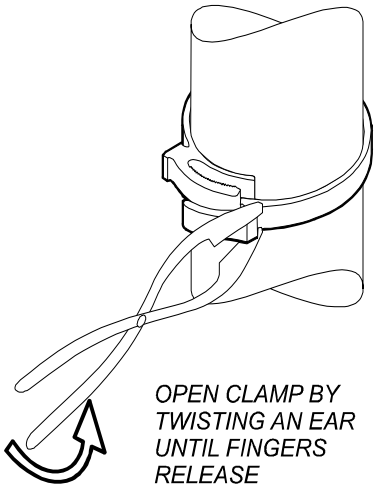
TOOLS REQUIRED:

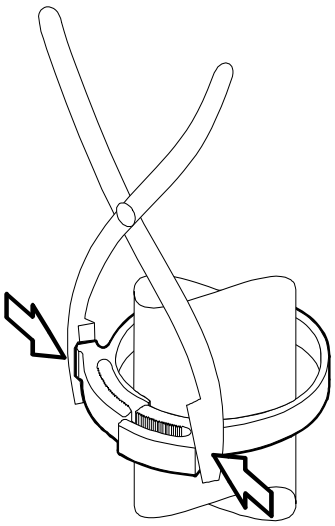
Needle Nose Pliers

1. Hose clamps used on Water-Max™ are reusable. DO NOT cut hose clamps.
2. Open clamp by twisting an ear until the fingers slide past one an other and release.
3. Tighten clamp by squeezing ears together.



HOSE CLAMP


OPEN CLAMP BY TWISTING AN EAR UNTIL FINGERS RELEASE

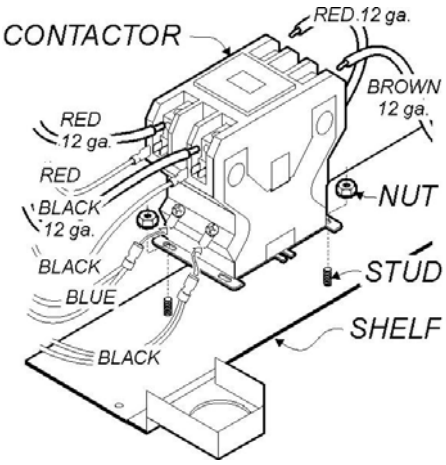

TIGHTEN CLAMP BY SQUEEZING EARS TOGETHER

SERVICING INSTRUCTIONS (continued)

WARNING
Electric Shock Hazard
Disconnect Water-Max™ from electrical power before removing any panel or cover.

TOOLS REQUIRED:

#2 Phillips Screwdriver
Container to hold fasteners
Flat Blade Screwdriver
Needle Nose Pliers
11/32" Nut Driver



CONTACTOR
Repair time not to exceed 0.5 hour

A. Preparation

1. Disconnect Water-Max™ from electrical power.
2. Shut off water supply to Water-Max™.

B. Removal

1. Remove top cover and wrap (see page 11)
2. Note position of wires on contactor.
3. Disconnect old contactor:
   a. Disconnect wires from contactor.
   b. Remove two self-locking nuts holding contactor to shelf. Lift old contactor off of studs; discard old contactor.

C. Installation

1. Note orientation of contactor. The two coil screws point toward the left.
2. Slide contactor mounting holes over studs. Secure with self-locking nuts.
3. Connect wires to the contactor. Be sure connectors for 12 ga. wires are tight.
   See drawing at left for configuration.
4. Reinstall top cover and wrap.

D. Return Unit to Service

1. Turn water supply on and check for leaks.
2. Connect Water-Max™ to electrical power and test for proper operation.

SCR ASSEMBLY

Repair time not to exceed 1.0 hour

A. Preparation

1. Disconnect Water-Max™ from electrical power.
2. Shut off water supply to Water-Max™.

B. Removal

1. Remove top cover and wrap (see page 11)
2. Disconnect cleanout assembly:
   a. Disconnect hose clamp on supply hose. Remove supply hose.
   b. Disconnect flare fitting from inductive heater inlet tube. Be sure to use a 7/16" backup wrench on the cleanout tube flare fitting. Avoid moving or stressing the inlet tube.
   c. Remove the cleanout assembly by lifting the cleanout body while guiding the tubing through the hole in the bracket.
3. Disconnect the contactor shelf:
   a. Remove two nuts at the corners of the shelf.
   b. Lift the shelf only enough to gain access to the SCR heatsink screws.
4. Disconnect old SCR assembly:
   a. Remove two screws from the bottom of the SCR heatsink.
   b. Note position of wires on SCR.
   c. Disconnect wires from SCR. Discard entire SCR and heatsink assembly .

C. Installation

1. Note orientation of SCR assembly. The notch in the base of the SCR faces the front of the unit. The fins of the heatsink face the right (power switch) side.
2. Connect wires. See drawings at right for configuration.
3. Install two screws holding SCR assembly to shelf.
4. Reinstall contactor shelf to unit.
5. Reinstall cleanout assembly. Be sure to use a backup wrench when attaching flare fitting to the inlet tube of heater. Avoid moving or stressing the inlet tube.
6. Reinstall top cover and wrap.

D. Return Unit to Service

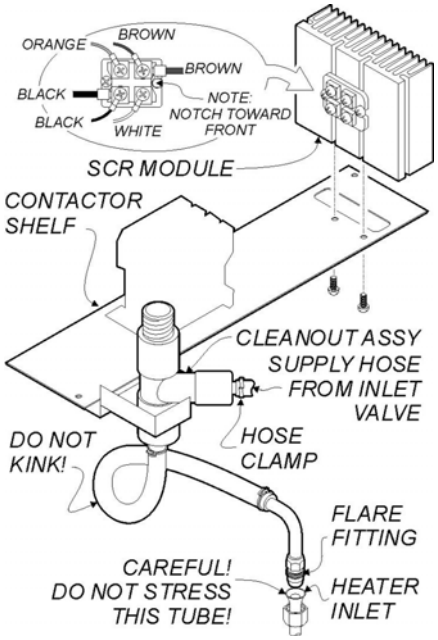
1. Turn water supply on and check for leaks.
2. Connect Water-Max™ to electrical power and test for proper operation.

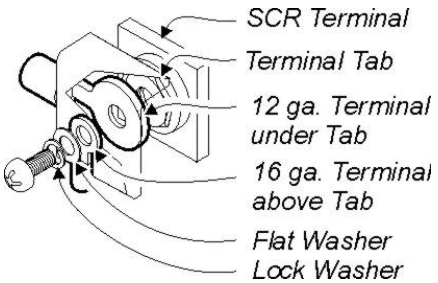
WARNING
Electric Shock Hazard

Disconnect Water-Max™ from electrical power before removing any panel or cover.

TOOLS REQUIRED:

#2 Phillips Screwdriver
Container to hold fasteners
Needle Nose Pliers
7/16" & 9/16" Open End Wrenches





WARNING
Electric Shock Hazard

Disconnect Water-Max™ from electrical power before removing any panel or cover.

TOOLS REQUIRED:

#2 Phillips Screwdriver
Container to hold fasteners
Needle Nose Pliers
7/16" & 9/16" Open End Wrenches

COOLING FAN

Repair time not to exceed 1.0 hour

A. Preparation

1. Disconnect Water-Max™ from electrical power.
2. Shut off water supply to Water-Max™.

B. Removal

1. Remove top cover and wrap (see page 11)
2. Disconnect cleanout assembly:
   a. Disconnect hose clamp on supply hose. Remove supply hose.
   b. Disconnect flare fitting from inductive heater inlet tube. Be sure to use a 7/16" backup wrench on the cleanout tube flare fitting. Avoid moving or stressing the inlet tube.
   c. Remove the cleanout assembly by lifting the cleanout body while guiding the tubing through the hole in the bracket.
3. Disconnect the contactor shelf:
   a. Remove two nuts at the corners of the shelf.
   b. Lift the shelf only enough to gain access to the fan and mounting screws.
4. Remove old fan:
   a. Remove two screws holding fan to heater.
   b. Disconnect wires. Discard old cooling fan.

C. Installation

1. Connect wires.
2. Attach new fan to heater.
3. Reinstall contactor shelf to unit.
4. Reinstall cleanout assembly. Be sure to use a backup wrench when attaching flare fitting to the inlet tube of heater. Avoid moving or stressing the inlet tube. Be sure braided supply tubing is not kinked.
5. Reinstall top cover and wrap.

D. Return Unit to Service

1. Turn water supply on and check for leaks.
2. Connect Water-Max™ to electrical power and test for proper operation.

POWER SWITCH

Repair time not to exceed 0.5 hour

A. Preparation

1. Disconnect Water-Max™ from electrical power.
2. Shut off water supply to Water-Max™.

B. Removal

1. Remove front assembly and tank shelf (see page 10).
2. Remove paper shield.
3. Note position of wires on switch. Disconnect wires.
4. Compress mounting fingers on switch. Push switch from inside to remove; discard old switch.

C. Installation

1. Note orientation of switch. ON (I) goes up.
2. Push switch through mounting hole until fingers engage and the flange of the switch sits flush against the cabinet.
3. Reinstall wires.
4. Reinstall paper shield, front assembly and tank shelf.

D. Return Unit to Service

1. Turn water supply on and check for leaks.
2. Connect Water-Max™ to electrical power and test for proper operation.

WARNING
Electric Shock Hazard

Disconnect Water-Max™ from electrical power before removing any panel or cover.

TOOLS REQUIRED:

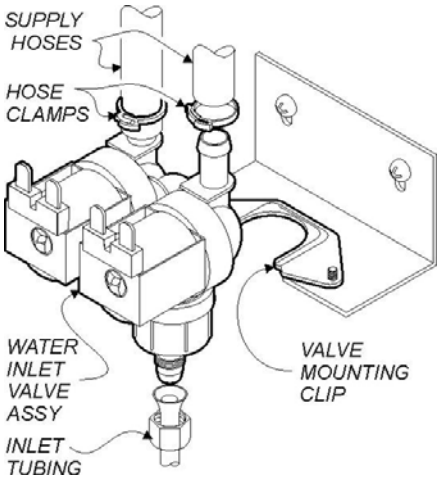
#2 Phillips Screwdriver
Container to hold fasteners
Needle Nose Pliers

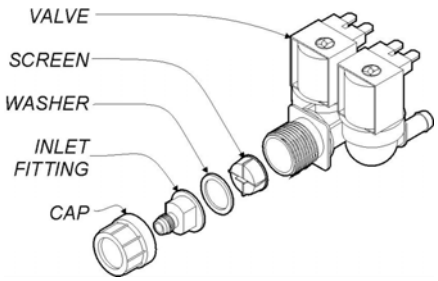
WARNING
Electric Shock Hazard

Disconnect Water-Max™ from electrical power before removing any panel or cover.

TOOLS REQUIRED:

#2 Phillips Screwdriver
Container to hold fasteners
Needle Nose Pliers
2 ea. 5/8" Open End Wrenches
Brush (Toothbrush or similar)





INLET WATER VALVE ASSEMBLY

Repair time not to exceed 0.5 hour (replace valve), or 1.0 hour (clean strainer screen)

A. Preparation

1. Disconnect Water-Max™ from electrical power.
2. Shut off water supply to Water-Max™.

B. Removal

1. Remove top cover and wrap (see page 11).
2. Remove paper shield. Disconnect supply hoses from valves. Refer to page 27 for removal of hose clamps.
3. Disconnect the inlet tubing flare fitting. Be sure to use a backup 5/8" wrench on the bottom fitting of the valve.
4. Note position of wires on valves. Disconnect wires.
5. Slide valve assembly out of valve mounting clip. Do not remove clip from frame bracket.

Note: Valve screen is removable for cleaning; otherwise, valves are sealed and cannot be rebuilt.

Clean valve or discard old valve assembly as appropriate.

C. Clean Strainer Screen

1. Unscrew cap from end of valve, remove inlet fitting and washer.
2. Using pliers, extract screen by grasping tab and working screen from valve body. Note orientation of screen.
3. Clean screen under running water. Use a fine brush if necessary to remove debris and build-up.
4. Reinstall screen in valve body. Note: tab on screen faces away from valve body.
5. Check inlet fitting for debris or build-up. Clean under running water using a fine brush if necessary.
6. Reinstall inlet fitting and washer into cap. Screw cap back onto valve.

D. Valve Installation

1. Snap valve assembly into mounting clip. Dual barb fittings point up.
2. Connect inlet tubing flare fitting. Be sure to use a backup 5/8" wrench on the bottom fitting of the valve.
3. Reconnect supply tubes.
4. Reconnect wires. Reinstall paper shield.
5. Reinstall top cover and wrap.

E. Return Unit to Service

1. Turn water supply on and check for leaks.
2. Connect Water-Max™ to electrical power and test for proper operation.

INLET WATER PRESSURE SWITCH
Repair time not to exceed 0.5 hour

A. Preparation

1. Disconnect Water-Max™ from electrical power.
2. Shut off water supply to Water-Max™.

B. Removal

1. Remove front assembly and tank shelf (see page 10).
2. Remove paper shield.
3. Disconnect wires.
4. Unscrew old pressure switch from brass tee fitting. Discard old switch.

C. Installation

1. Wrap switch threads with Teflon tape. Thread switch into brass tee fitting. Tighten by hand. Switch should be snug without being over-tight.
2. Connect wires.
3. Reinstall paper shield. Reinstall front assembly and tank shelf.

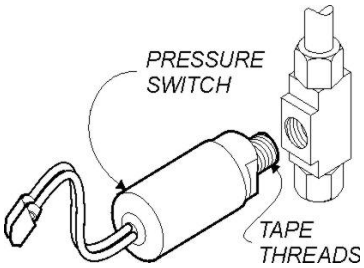
D. Return Unit to Service

1. Turn water supply on and check for leaks.
2. Connect Water-Max™ to electrical power and test for proper operation.

WARNING
Electric Shock Hazard
Disconnect Water-Max™ from electrical power before removing any panel or cover.

TOOLS REQUIRED:

#2 Phillips Screwdriver
1" (very thin) Open End Wrench
Container to hold fasteners
Teflon thread tape



WARNING
Electric Shock Hazard

Disconnect Water-Max™ from electrical power before removing any panel or cover.

CAUTION:
SHOCK HAZARD

Removal of the top, front or side panels results in Exposed electrical circuits. Setting the temperature must be performed by a qualified technician only. Use care whenever working around exposed electrical circuits.

TOOLS REQUIRED:

Digital Thermometer
#2 Phillips Screwdriver
Small flat-blade screwdriver
11/32" Nut Driver
Container to hold fasteners
Needle Nose Pliers

POWER BOARD

Repair time not to exceed 1.0 hour (including calibration)

A. Preparation

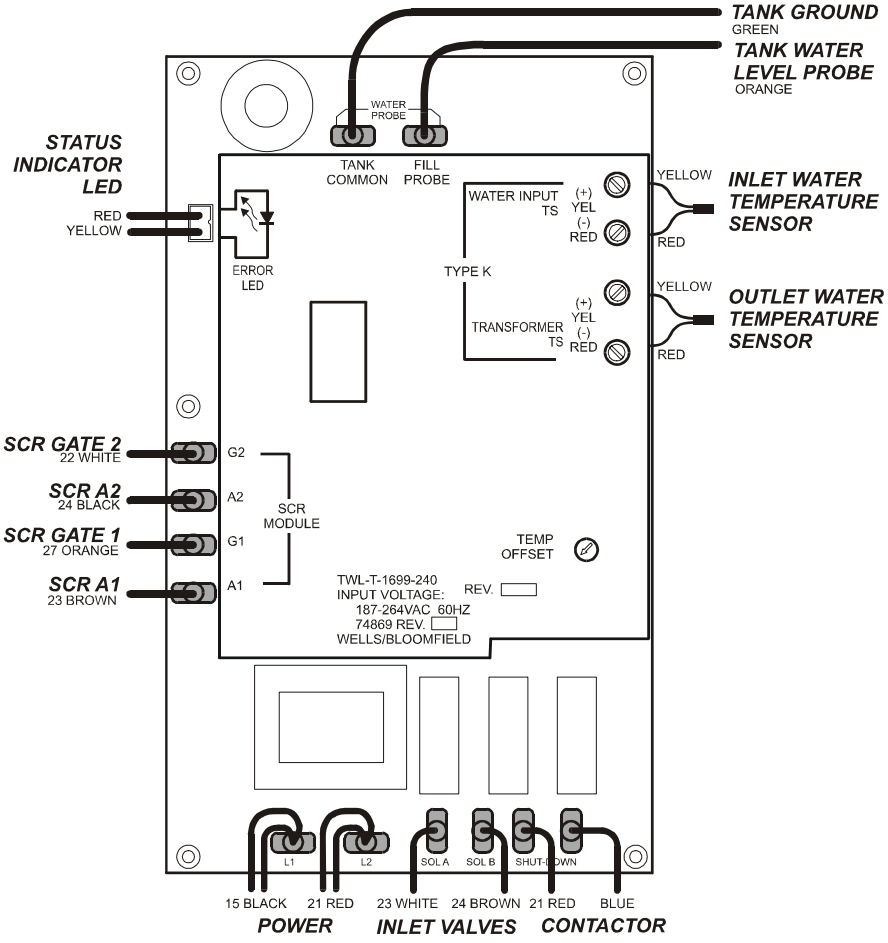
1. Disconnect Water-Max™ from electrical power.
2. Shut off water supply to Water-Max™.

B. Removal

1. Remove front assembly (see page 10).
2. Note wiring connections. Disconnect wiring from board.
3. Remove 4 ea. 11/32" nuts from corners of power board. Remove power board from unit.

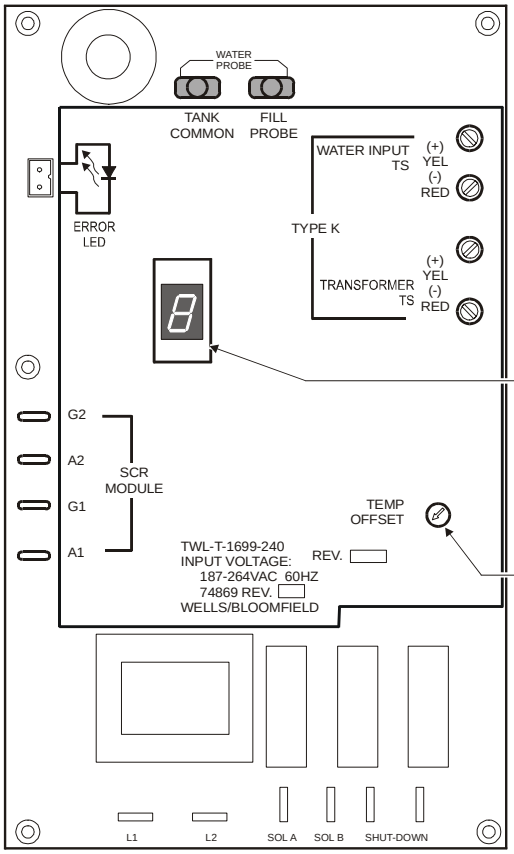
C. Installation

1. Install new board. Note orientation. Mounting nuts should be snug, but not over-tight.
2. Connect wires per drawing below. Be careful that inlet and outlet water temperature thermocouples are properly connected.
3. Reinstall front cover assembly. Do not install support cover yet.



D. Return Unit to Service

1. Turn water supply on and check for leaks.
2. Connect Water-Max™ to electrical power.
3. Calibrate power board. See drawing below.
   a. Insert the thermocouple of a digital thermometer at least 4" into dispenser nozzle.
   b. Install water tank under dispense nozzle. Press power switch *ON.*
   c. Run and discard at least one full tank of hot water to allow dispenser temperatures to stabilize.
   d. Temperature is factory set for 201ºF. Turn temp offset on the power board so that the temperature on digital thermometer reads 201ºF.
4. Reinstall support cover.
5. Test unit for proper operation



READOUT (Error Code)

CALIBRATE TEMP

WARNING
Electric Shock Hazard

Disconnect Water-Max™ from electrical power before removing any panel or cover.

CAUTION: SHOCK HAZARD

Removal of the top, front or side panels results in
Exposed electrical circuits.
Setting the temperature must be performed by a qualified technician only.
Use care whenever working around exposed electrical circuits.

NOTE: The practical maximum temperature is the local boiling temperature (based on the altitude of the installation) minus 10ºF.

If the stream is "sputtering", water temperature is set too high, allowing steam to form in the water flow. Set TEMP OFFSET lower to compensate.

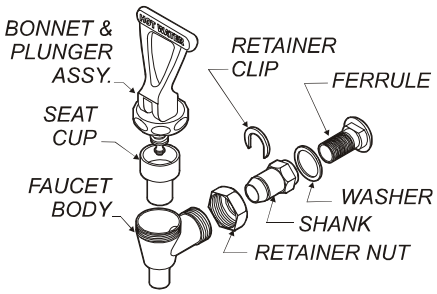
SERVICING INSTRUCTIONS (continued)

CAUTION:
Burn Hazard

Carefully empty water from tank and remove tank from Water-Max™ and before performing any servicing.

TOOLS REQUIRED:

18" Adjustable Wrench
Container to hold fasteners
Teflon Thread Tape
Food-Grade Silicone Sealant



FAUCET AND SHANK ASSEMBLY
Repair time not to exceed 0.5 hour

A. Removal and Disassembly

1. Carefully drain all water from the tank. Remove the tank from Water-Max™. Remove the tank lid from the tank and store in a safe place.
2. Loosen retainer nut and remove faucet from shank. Slide the retainer clip out of the groove in the shank. Store retainer nut and retainer clip in a safe place.
3. If seat cup is to be replaced, unscrew bonnet and handle assembly from the top of the faucet. Work the seat cup off of the end of the faucet plunger.
4. Unscrew the faucet shank from the ferrule. Withdraw the ferrule from inside the tank.

B. Install

1. Clean the inside of the tank around the faucet mounting hole.
2. Apply a thin bead of food-grade silicone sealant to the lip of the ferrule. Slide the washer onto the ferrule. Apply a thin bead of food-grade silicone sealant to the side of the washer which will contact the inside of the tank. Insert the ferrule from inside the tank, making sure the spacer is in place between the tank and wrap. Align the double "D" on the ferrule with the flats of the tank hole.
3. Wrap the exposed threads of the ferrule with Teflon tape. Screw the shank onto the ferrule and tighten.
4. If faucet seat cup is to be replaced, snap a new seat cup onto the end of the faucet plunger. Work the faucet lever to insure proper installation. Screw the bonnet and handle assembly onto the faucet.
5. Slide the retaining nut over the shank, threads facing away from the tank. Slide the retaining clip into the groove in the shank. Install the faucet and tighten the retaining nut. Handle should point up, with the printed "HOT WATER" facing away from the tank.
6. Fill the tank with tap water. Check for leaks. Test the faucet for proper operation.
7. Empty the tank. Install the tank lid and reinstall tank on Water-Max™.

DISPENSER TANK

A. Tank Disassembly (refer to page 27)

1. Carefully drain all water from the tank. Remove the tank from Water-Max™. Remove the tank lid from the tank and store in a safe place.
2. Remove temperature gauge and holding nut from tank.
3. Disassemble faucet shank assembly (see page 20).
4. Remove four screws (517) from side lips of reservoir assembly.
5. Lift tank reservoir assembly out of wrap.
6. Disconnect wiring as required.

B. Reassembly

1. Reconnect any wires disconnected during service.
2. Apply a thin bead of food-grade silicone sealant along the top lip of the wrap.
3. Install tank reservoir into wrap. Be sure tank is properly oriented.
4. Secure reservoir assembly into tank by installing four screws in side lips.
5. Reinstall faucet assembly (see page 20).
6. Fill the tank with tap water. Check for leaks.
7. Empty the tank. Install the tank lid and reinstall tank on Water-Max™.

CAUTION: Burn Hazard

Carefully empty water from tank and remove tank from Water-Max™ and before performing any servicing.

TOOLS REQUIRED:

#2 Phillips Screwdriver
18" Adjustable Wrench
Container to hold fasteners
Teflon Thread Tape
Food-Grade Silicone Sealant

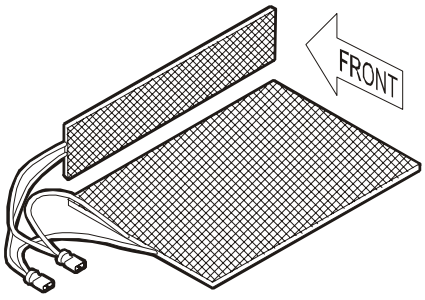
Note: Be careful to avoid scraping, trapping or pinching wires as the reservoir is lowered into the wrap.

TANK HEATER

1. Disassemble tank per above.
2. Using a putty knife or similar scraper, remove old heater assembly and any remaining RTV from outside of tank.
3. Attach new heater assembly to bottom and front of tank. Refer to *Exploded View* on page 27 for location.
4. Seal edges of heater using Hi-Temp (red) RTV sealant.
5. Allow to set for at least one hour, then reassemble tank as detailed above.

TOOLS REQUIRED:

#2 Phillips Screwdriver
18" Adjustable Wrench
Container to hold fasteners
Teflon Thread Tape
Food-Grade Silicone Sealant
Putty Knife
Hi-Temp (Red) RTV Sealant



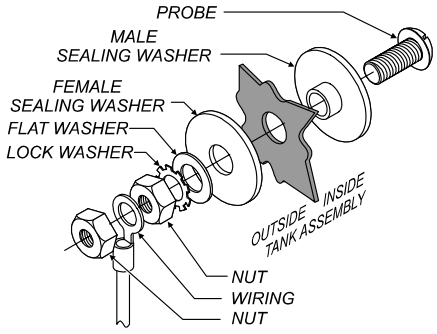
CAUTION:
Burn Hazard

Carefully empty water from tank and remove tank from Water-Max™ and before performing any servicing.

TOOLS REQUIRED:

#2 Phillips Screwdriver
7/16" Open-End Wrench
Container to hold fasteners
Food-Grade Silicone Sealant

Note: Be careful to avoid scraping, trapping or pinching wires as the reservoir is lowered into the wrap.



LOW WATER LEVEL PROBE
Repair time not to exceed 0.5 hour

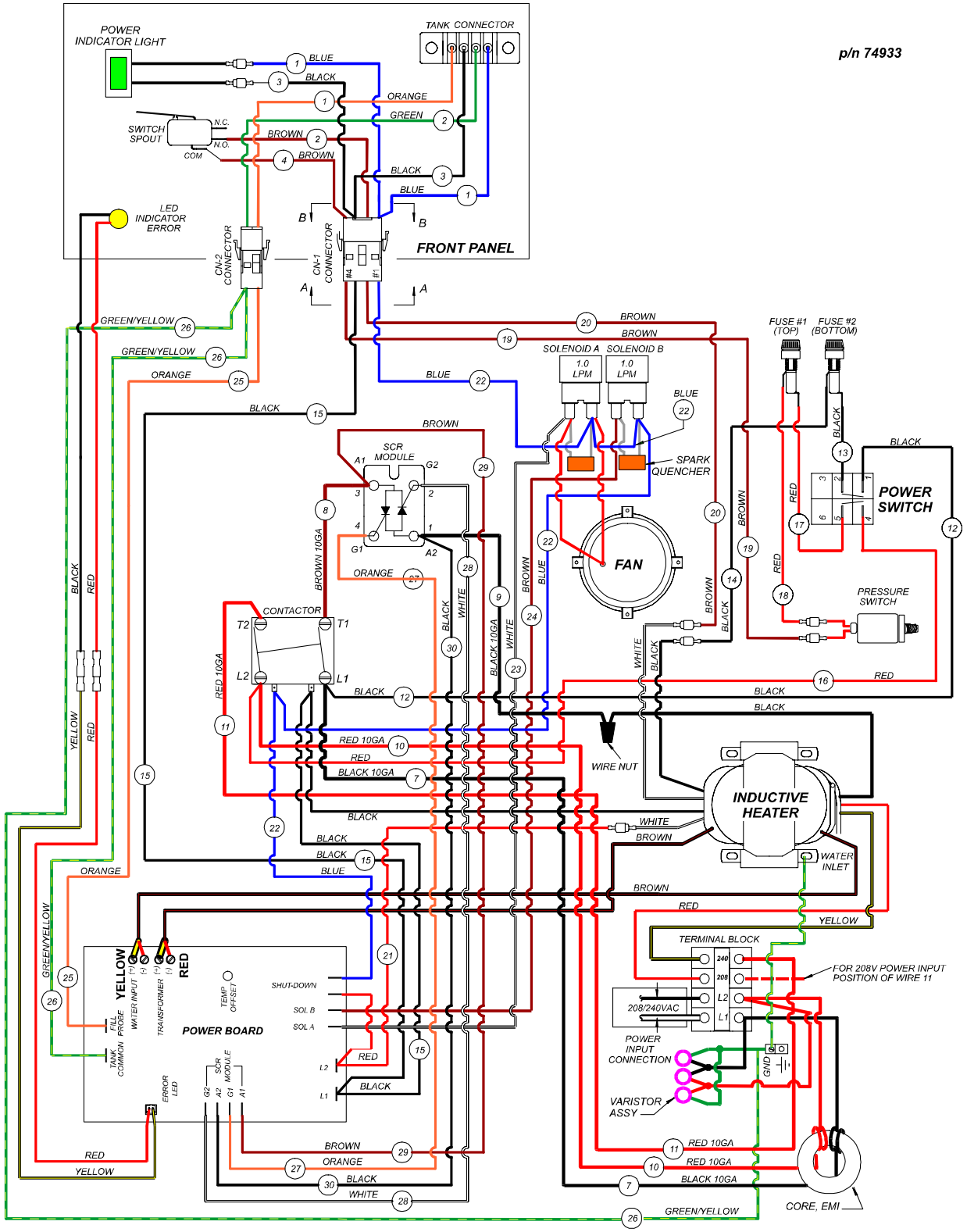
A. Removal and Disassembly

1. Carefully drain all water from the tank. Remove the tank from Water-Max™. Remove the tank lid from the tank and store in a safe place.
2. Disassemble the tank (see page 21).
3. Disconnect wiring from the probe. Disassemble probe. Withdraw the probe from the inside of the tank. Discard the old probe and nylon sealing washers.

B. Install

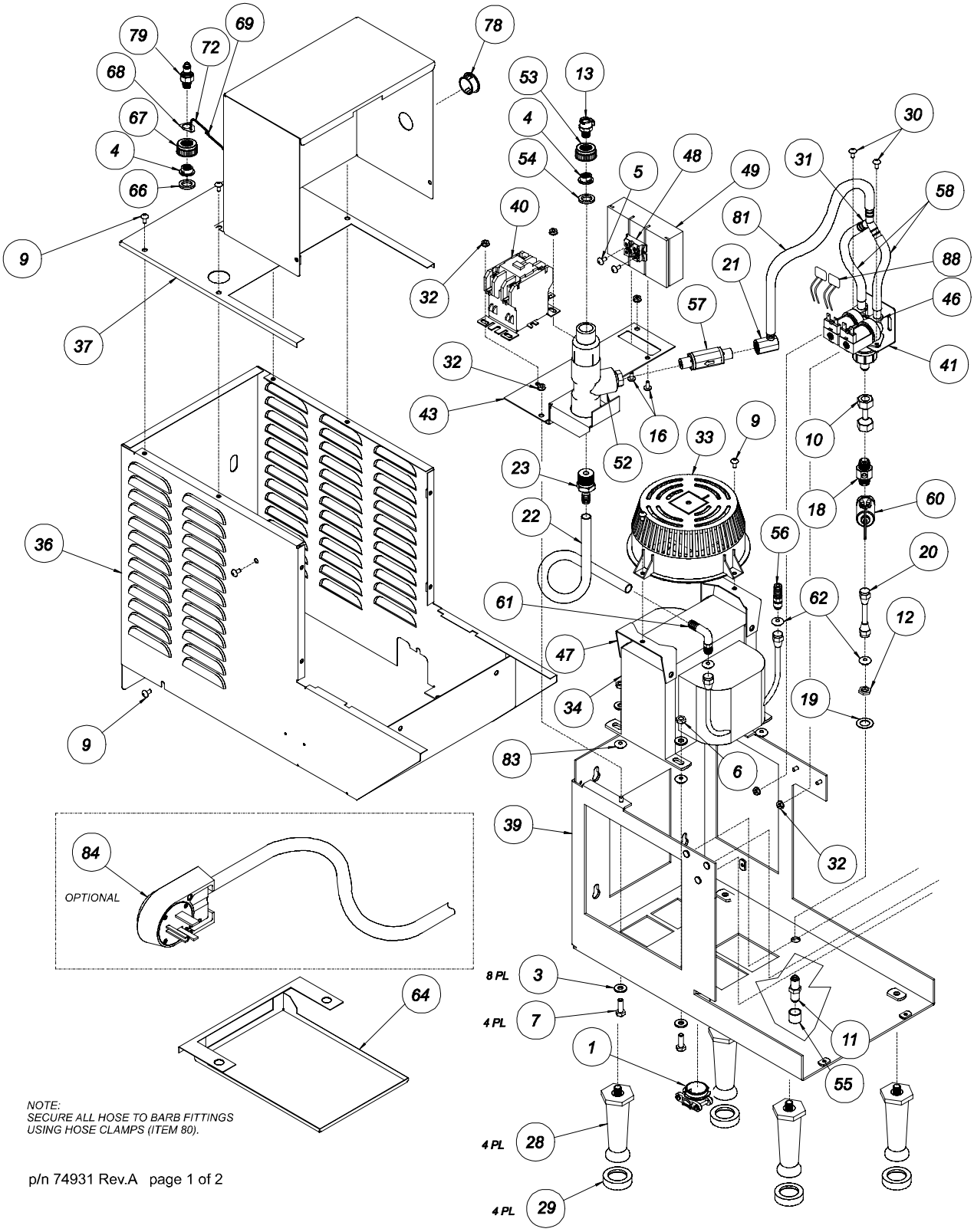
1. Clean the inside of the tank around the probe mounting hole.
2. Apply a thin bead of food-grade silicone sealant around the lip of the male sealing washer. Insert the male sealing washer into the mounting hole from the inside of the tank.
3. Apply a thin bead of food-grade silicone sealant to one side of the female sealing washer. From outside of the tank, slide the female sealing washer over the protruding shoulder of the male sealing washer with the sealant side toward the tank.
4. Install probe assembly:
   a. Apply a thin bead of food-grade silicone sealant to the underside of the head of the probe.
   b. Insert the probe into the sealing washers from the inside of the tank. Orient the slot in the face of the probe vertically.
   c. Slide a flat washer and a lock washer over the protruding threads of the probe. Thread on one nut. Tighten until the sealing washer assembly is visibly compressed.
5. Reconnect wiring.
6. Examine all wiring connectors. Be sure that all connectors are secure before reassembling tank.
7. Reassemble tank (see page 21).
8. Fill the tank with tap water. Check for leaks.
9. Empty the tank. Reinstall tank on Water-Max™. Observe operation as the tank fills:
   a. Water-Max™ should dispense until the water level reaches the probe.
   b. Dispense must stop when the water level reaches the probe.
10. Reinstall the tank lid.

WIRING DIAGRAM - DISPENSER



EXPLODED VIEW & PARTS LIST - DISPENSER

WATER-MAX™ DISPENSER



NOTE:
SECURE ALL HOSE TO BARB FITTINGS
USING HOSE CLAMPS (ITEM 80).

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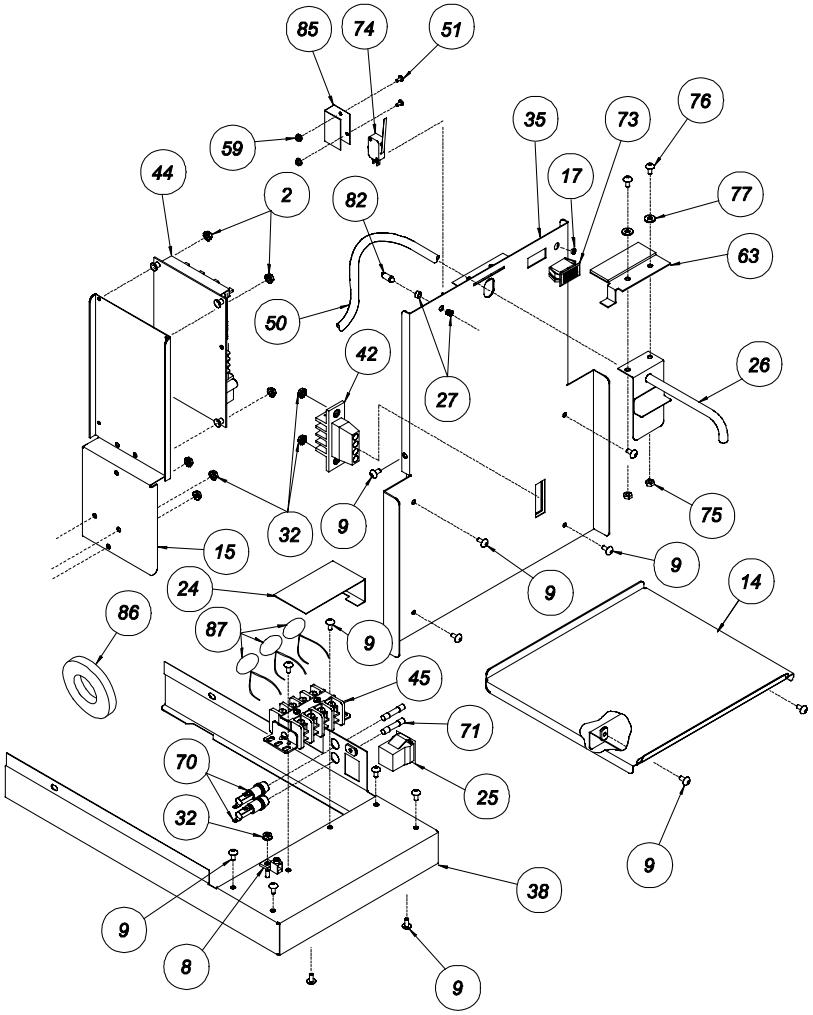
EXPLODED VIEW & PARTS LIST - DISPENSER (continued)

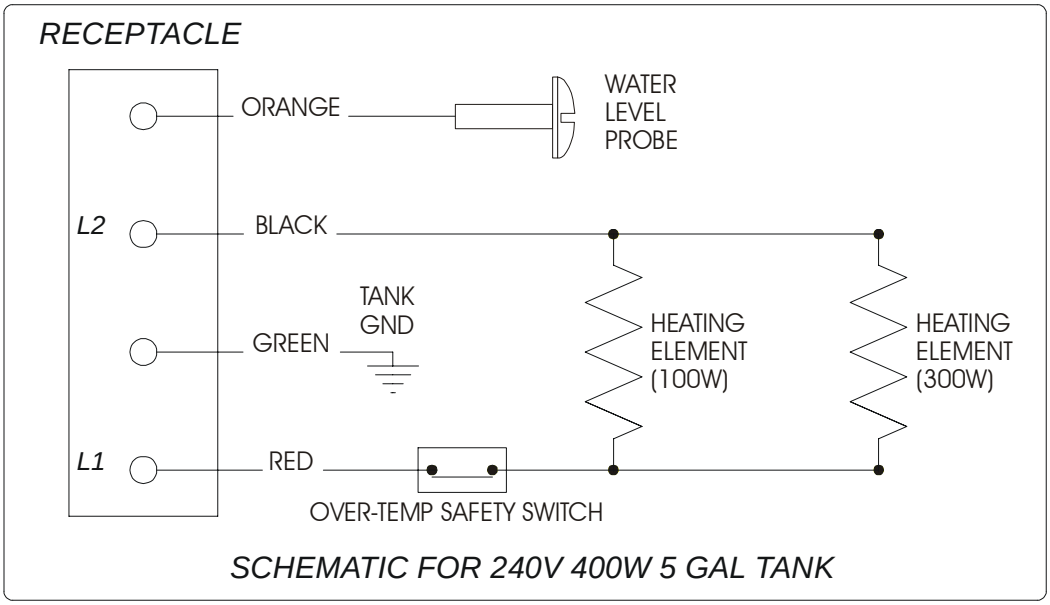
ITEM	PART NO.	DESCRIPTION	QTY
1	500102	STRAIN RELIEF	1
2		NUT KEP ZI 6-32	4
3		WASHER FLAT 1/4 SS	8
4		FITTING, 1/4 FNPT, TP VALVE	2
5		SCREW PAN PHL NI #8 X 1/4	2
6		NUT LOCK 1/4-20 ZI	4
7		BOLT HEX SS 1/4-20 X 1 1/4	4
8		LUG GROUND SOLDERLESS	1
9		SCREW PHL SS 8 X 5/16	26
10	84075	TUBE ASSY, INLET	1
11	80154	FITTING UNION 1/4 X 1/4	1
12	8710-10	NUT HEX BRASS 7/16-20 X 1/8	1
13		QUICK DISCONNECT COUPLING	1
14		SHELF, TANK	1
15		BRACKET, BOARD MTG	1
16		SCREW PHL 6 X 5/8 SHT METAL ZI	2
17	85545	PLUG, BUTTON, 1/4"	1
18		TEE, 1/4F X 1/4F X 1/8NPT	1
19	8551-100B	WASHER SS 7/16 ID X 3/4 OD	1
20		TUBE ASSY STRAIGHT	1
21		ELBOW 1/4 FPT X 3/8 BARB, SS	1

NOTE:
SECURE ALL HOSE TO BARB FITTINGS USING HOSE CLAMPS (ITEM 80).



ITEM	PART NO.	DESCRIPTION	QTY
22	85146	TUBE, BRAIDED. .38 I.D., 16 LG	1
23	84663	FITTING, SS, 3/8 BARB X 1/2 MPT	1
24		SHIELD, TERMINAL BLOCK	1
25	82936	SWITCH ROCKER ON-OFF 125/250V	1
26	84528	WATER SPOUT ASSY	1
27	85271	MOUNTING CLIP AND RING	1
28	85160	LEG 4" DIE CAST, NICKEL PLT	4
29	83107	FEET RUBBER BLACK	4
30		SCREW PAN SLT SS 4MM X 6MM	2
31		FITTING "Y" 3/8 HOSE	1
32		NUT KEP 8-32 SS	14
33	84283	FAN ASSY 208-240VAC	1
34	84015	INDUCTIVE HEATER ASSY	1
35		SUPPORT FRONT	1
36		WRAP FRAME	1
37		COVER TOP	1
38		COVER BASE	1
39		FRAME WELD ASSY	1
40	84282	CONTACTOR 2 POLE 208-240VAC	1
41		BRACKET SOLENOID	1
42	84548	CONNECTOR, WIRED ASSY	1
43		WELD ASSY, SHELF	1
44	84869	POWER BOARD	1
45	60310	TERMINAL BLOCK 4 POLE	1
46	84691	ASSY, WATER INLET VALVE	1
47		BRACKET FAN MOUNTING	2
48	84041	SCR MODULE	1
49		HEAT SINK, SCR	1
50	84043	TUBE SILICONE .312 ID	1
51		SCREW, 4-40 X 5/8 SS	2
52	84065	CLEANOUT ASSY	1
53	84070	CAP CLEANOUT	1
54	84071	WASHER SILICONE	1
55	84629	TUBE SILICONE, .312 I.D. X .50	1
56	84073	FITTING 1/4 MF X 3/8 BARB	1
57	84074	VALVE CHECK 1/4 X 1/4	1
58	84666	TUBE BRAIDED, .38 I.D. X 4 1/2"	2
59		NUT, HEX, 4-40 SS	2
60	85247	PRESSURE SWITCH, PCI	1
61	84664	ELBOW, SS, 3/8 BARB X 1/4 MFL	1
62		SEAL, 1/4 FLARE	3
63		BRACKET, SPOUT ASSY	1
64		SHIELD, BOTTOM	1
65		COVER, SUPPORT	1
66		WASHER, RUBBER, NEOPRENE	1
67		CAP, BOTTLE, MODIFIED	1
68		CLIP, CHAIN	1
69		LINK, SPLICING, #3 CHAIN	1
70	83163	FUSE HOLDER	2
71	83164	FUSE 10A	2
72		CHAIN	2
73	84784	LIGHT, PILOT, GREEN	1
74	84746	SWITCH, MINIATURE 15A	1
75		NUT, 10-32 SS	2
76		SCREW, TRUSS, PHL, 10-32 X 1/2	2
77		WASHER, SPLIT, #10, SS	2
78		PLUG, CLEAR 1" HOLE	1
79		QUICK DISCONNECT INSERT	1
80	84212	CLAMP HOSE, 11/16, PLASTIC	9
81	84765	TUBE BRAIDED, .38 I.D. X 10"	1
82	84660	LED ASSY, ERROR INDICATOR	1
83		GROMMET, .25 I.D. X .38 O.D.	4
84	84897	CORD ASSY 6-50 3W 250V (OPTIONAL)	1
85		GUARD, SWITCH	1
86		CORE, FERRITE EMI SUPPRESSION	1
87		VARISTOR, RFI SUPPRESSION	3
88		SPARK QUENCHER	2

WIRING DIAGRAM - TANK

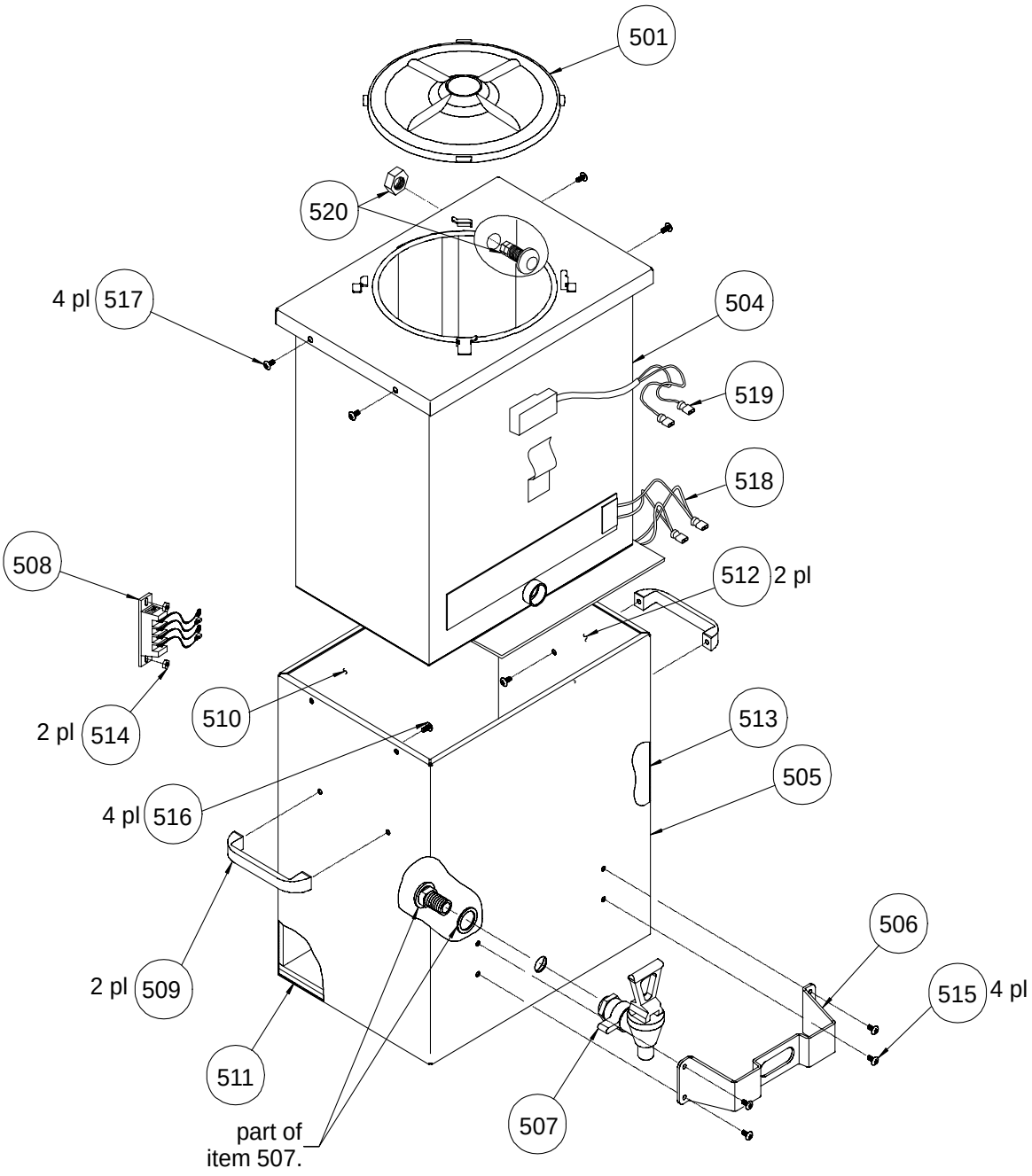


SCHEMATIC FOR 240V 400W 5 GAL TANK

EXPLODED VIEW & PARTS LIST - TANK

WATER-MAX™ 5 - GALLON WATER TANK

ITEM	PART NO.	DESCRIPTION	QTY
520	85011	PROBE, LOW WATER LEVEL	1
519	84905	OVER TEMP SWITCH (PEPI)	1
518	84607	HEATER ASSY, 5 GALLON TANK	1
517		SCREW, PHL SS 8-32 X 5/16	4
516		SCREW, THD CUTTING, SS 10-24 X 1/2	4
515		SCREW, 8-32 X 3/8 BLACK OXIDE	4
514	503346 (KIT)	NUT, KEP 8-32, SS	2
513		INSULATION, FRONT	1
512		INSULATION, SIDE	2
511		INSULATION, BOTTOM	2
510		INSULATION, REAR	1
509	51973	HANDLE, DOOR	2
508	84583	RECEPTACLE, WIRED ASSY	1
507	84686	FAUCET & SHANK ASSY	1
506	84313	HANDLE, FAUCET GUARD	1
505		WRAPPER ASSY	1
504		TANK RESERVOIR ASSY	1
501	84659	TANK LID	1



p/n 75013 Rev. A

SERVICE TRAINING - QUALITY SERVICE

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